Filing Date: June 1, 2001

Attorney Docket Number: 04329.2197-01

AMENDMENTS TO THE SPECIFICATION:

1. Please replace the paragraph beginning on page 7, line 21, and ending on page 8, line

4, with the following new paragraph:

The semiconductor sealing composition is a thermoplastic material. The thermosetting

material is not substantially contained in the semiconductor sealing composition. The

semiconductor sealing composition of the present invention is prepared recyclable to reduce

industrial waste. It is preferable that a fibrous filler such as glass fiber be not substantially

contained. A particulate filler such as silica may be mixed in some cases, but if the content of

the particular filler exceeds 75 wt%, it is sometimes difficult to [[mull]] mix the filler.

2. Please replace the paragraph beginning on page 9, line 7, with the following new

paragraph:

Conventionally, a fiber material has been mixed in a resin to increase the mechanical

strength of the semiconductor device. However, a fiber material having an anisotropic outer

shape is not added since such a fiber material facilitates anisotropy of the line expansion

coefficient. Of the fibers, particularly the glass fiber shortens the life of the semiconductor

device, since Na ions and Cl ions melt out from sodium glass components. Furthermore, the

sealing resin composition must be mulled mixed when recycled. However, if the glass fiber is

mixed in the sealing resin composition, the glass fibers are torn to pieces in the mulling mixing

step. As a result, its mechanical strength cannot be maintained.

FINNEGAN HENDERSON FARABOW GARRETT & DUNNERLL

1300 I Street, NW Washington, DC 20005 202.408.4000 Fax 202.408.4400 www.finnegan.com

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3. Please replace the paragraph beginning on page 9, line 21, and ending on page 10, line

10, with the following new paragraph:

The sealing resin composition used herein is a resin having a thermoplastic resin called

polyphenylene sulfide (PPS) as a thermoplastic component. The package 20 is formed by

injection-molding and solidifying a sealing resin composition which has been colored black and

rendered opaque. The molding conditions are as follows: a molding temperature: 155°C; a

resin melting temperature: [[35°C]] 350°C; a presumable viscosity (actually not measurable) of

the resin passing through a gate provided in a shaping mold: 100 Pa·s; and a holding pressure:

60 MPa. The semiconductor device is formed by electrically connecting the semiconductor

element 14 to the leadframe 11 with the bonding wire 15, arranging the bonded construct in a

cavity formed in the shaping mold, filling the cavity with the sealing resin composition, and

cooling it to solidify.

4. Please replace the paragraph beginning on page 11, line 13, and ending on page 12,

line 11, with the following new paragraph:

The test device is a universal tensile test machine UCT -2.5T manufactured by Orientech

Co., Ltd. Of the packages subjected to the tensile test, no chip-off was observed in the packages

having a bending strength of [[7.4]] 74 MPa or more. Therefore, the adhesion imparting agent

may be added up to the amount which gives a bending strength of 74 MPa or more in a generally

used semiconductor device. From experiments, the relationship between a weight ratio of the

adhesion imparting agent to the thermoplastic resin (the adhesion imparting agent [wt%]/the

thermoplastic resin [wt%]) in the sealing resin composition and the mechanical strength of the

thermoplastic resin is obtained as shown in FIG. 2. The bending strength is maintained at 74

DUNNER LLP

1300 | Street, NW
Washington, DC 20005

FINNEGAN HENDERSON FARABOW

GARRETT &

202.408.4000 Fax 202.408.4400

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MPa until the weight ratio does not exceed 0.28 but decreases when the weight ratio exceeds

0.28. Therefore, an upper limit of the weight ratio is about 0.28. In this case, the semiconductor

sealing resin composition is constituted of silica particles (65 wt% to 75 wt%) and a

thermoplastic resin (25 wt% to 35 wt%). Furthermore, to impart the adhesion properties, the

adhesion imparting agent for increasing adhesion to the other material by means of a polar group

bonding, may be added to the thermoplastic resin composition in an amount of about 28 wt% or

less based on the thermoplastic resin separately added.

5. Please replace the paragraphs beginning on page 13, line 18, and ending on page 13,

line 25, with the following new paragraphs:

Since a glass transition temperature of the thermoplastic component (PPS) is close to

about 90°C, an infection inflection point of the line expansion coefficient of the sealing resin

composition is present near about 90°C.

Therefore, the linear expansion coefficient within a range of 80°C to 100°C including the

infection inflection point is not stable but tends to be larger than that of other temperature ranges.

6. Please replace the paragraph beginning on page 19, line 23, and ending on page 20,

line 1, with the following new paragraph:

The thermoplastic sealing resin compositions listed in table 1 contain silica in an amount

of 30 to 75 wt%. However, silica may not be contained. The samples are listed in Table 1 just

only for comparison. However, if silica is added in excess of 75%, the resin composition is

sometimes to hard to [[mull]] mix.

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7. Please replace the paragraph beginning on page 38, line 9, with the following new paragraph:

In this text, when the reliability is evaluated, the electrical properties are measured using a current value Iceo (a reverse current between a eorrector collector and an emitter when the base is opened) as an index in the case of a transistor. However, it is known that voltage parameters such as Vcbo (eorrector base collector-base reverse current when an emitter is opened), Vceo (eorrector-emitter collector-emitter reverse voltage when the base is opened) and Vebo (emitter-base reverse voltage when the eorrector collector is opened) are much more influenced by the TCT test. Requirements for the sealing resin composition appear to be severe if the measurement is performed on the basis of the voltage parameters. Conversely, if the measurement is performed using the electric properties less influenced by the test, as a parameter, the requirement for the sealing resin composition becomes less severe.

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